

(19) World Intellectual Property  
Organization  
International Bureau



541751

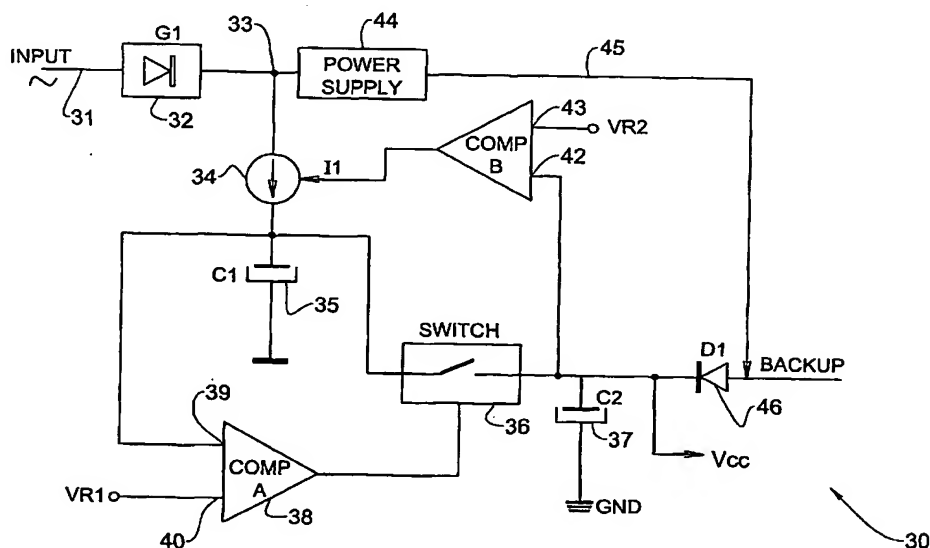
(43) International Publication Date  
15 July 2004 (15.07.2004)

PCT

(10) International Publication Number  
**WO 2004/059824 A1**

- (51) International Patent Classification<sup>7</sup>: **H02M 3/335**, 1/12
- (74) Agent: **REINHOLD COHN AND PARTNERS**, P.O.Box 4060, 61040 Tel-Aviv (IL).
- (21) International Application Number: **PCT/IL2003/000606**
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 24 July 2003 (24.07.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
153606 24 December 2002 (24.12.2002) IL
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): **LIGHTTECH ELECTRONIC INDUSTRIES LTD.** [IL/IL]; 9 Hamelacha Street, Northern Industrial Zone, 71520 Lod (IL).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): **PATCHORNIK, Joshua** [IL/IL]; 9 Etzion Street, 52383 Ramat Gan (IL).
- Published:**  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: **ENERGY SAVING STARTUP CIRCUIT FOR POWER SUPPLY**



(57) Abstract: A startup circuit (30) for a power supply (44), has an input (31) for connecting a source of high voltage thereto, and an output rail (33) for feeding rectified voltage to the power supply. A first energy storage device (35) is coupled to the output rail for storing energy when voltage is first applied to the input, and a second energy storage device (37) is coupled to an output of the power supply for storing energy when a voltage appearing at the output of the power supply reaches substantially steady state. A switching circuit (36, 50) is coupled to the first energy storage device and to the second energy storage device and is responsive to the first energy storage device having sufficient energy for transferring the energy to the second energy storage device and disconnecting the first energy storage device from the output rail.

WO 2004/059824 A1